

# LEED for Homes Overview



LEED  
for HOMES

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## TOPICS

- Background
- Market needs
- Strategy & structure
- The credits
- Program delivery
- The Pilot – Locally
- Why do it?



WHAT IS THE LEED SYSTEM?

LEADERSHIP in  
ENERGY and  
ENVIRONMENTAL  
DESIGN

A leading-edge  
system for  
certifying  
the greenest  
performing  
buildings in the  
world



## LEED RATING SYSTEMS

LEED-NC new construction

LEED-EB existing buildings

LEED-CI commercial interiors

LEED-CS core & shell

LEED for HOMES

LEED-ND neighborhood development

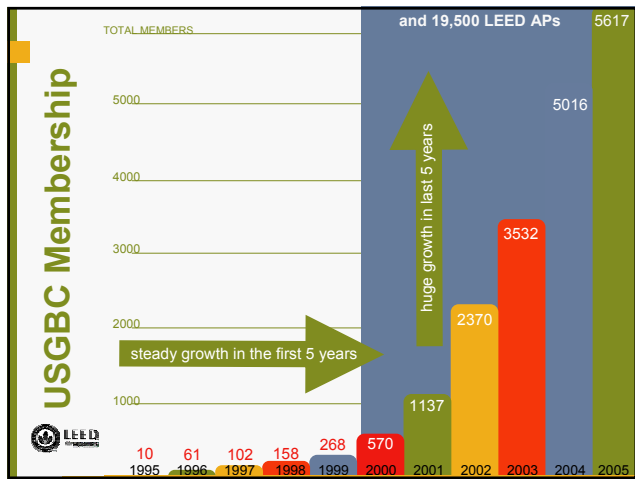
Commercial  
Buildings

Low-rise Housing

Mixed-Use  
Developments



green building  
institute



March 20, 2006

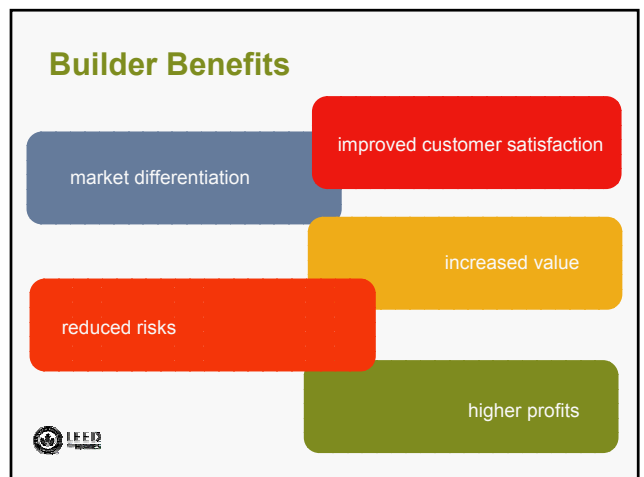
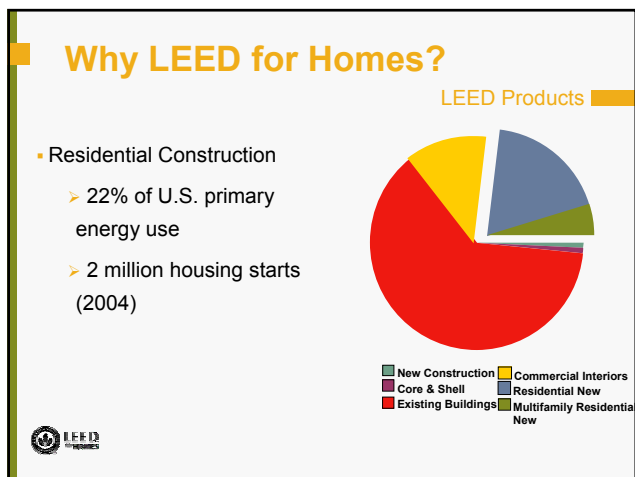
## Nation's Building News

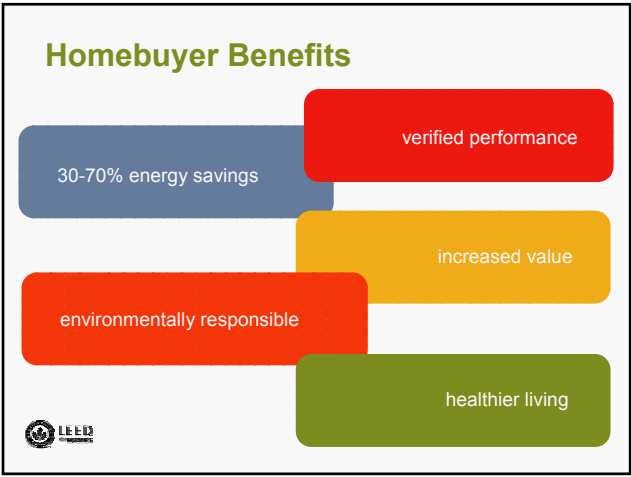
**"Green home building is at a *tipping point* among the builder population"**

As of 2006, **50% of builder's** "are focusing their attention on green building issues"

**"It's the right thing to do"**

LEED logo



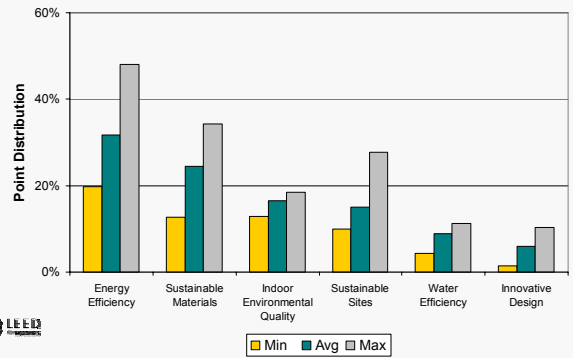


## More than 50 Existing Green Building Programs

	<u>Average</u>	<u>Max/Min</u>
Checklist length (pages)	7	10 / 5
No. of credits	195	297 / 65
Points per credit	3.4	9 / 1
No. of points	650	1800 / 65



## What green measures are being rewarded?

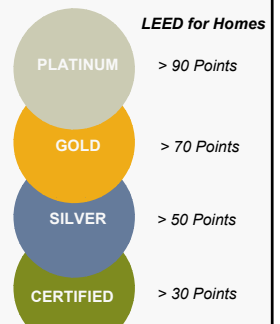


A new LEED –  
the same ...



## A National, Consensus-Based Standard Developed by Experts

LEED has four levels:

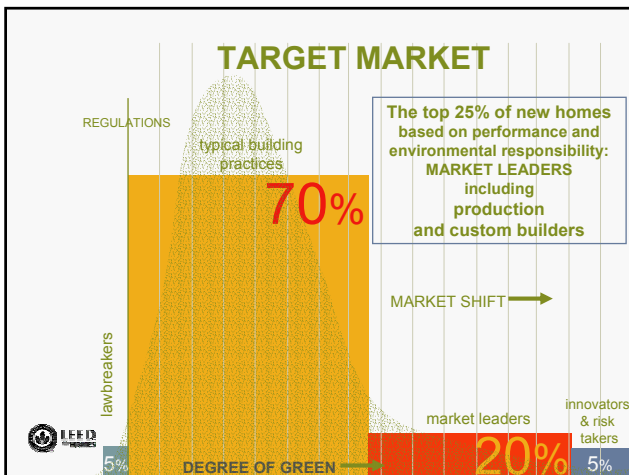




**THE GOAL:**  
**Production Builders Can Use it to Show Market Leadership**

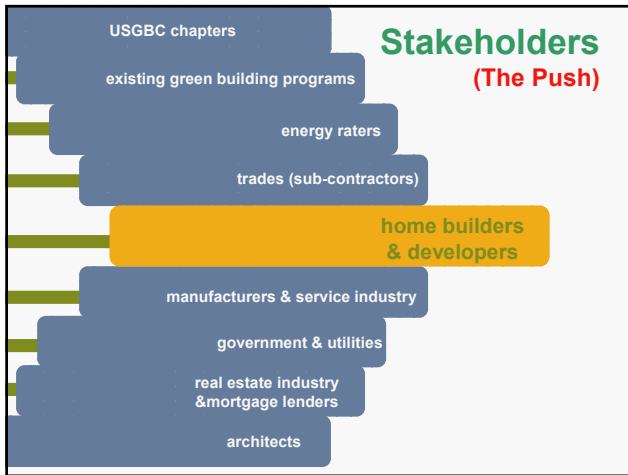
The Approach:

- Use existing rating infrastructure
- Build around successful programs
- Take strategic approach (vs. "soup-to-nuts")
- Stay focused: one sheet (two-sided), ~108 points



**Stakeholders**  
 (The Pull)

home buyers




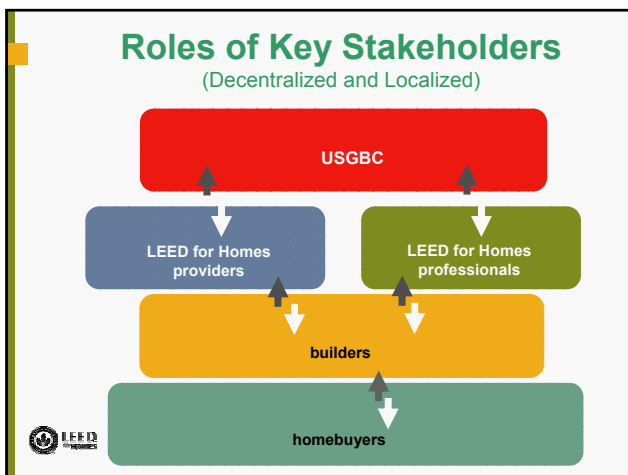
## Purpose of Pilot

**USGBC** (To Listen and Learn)

1. Ease of Use of Rating System
2. Ease of Delivery
3. Stakeholder Acceptance

**Stakeholders** (To Provide Feedback)

1. Market Differentiation
2. Grow Business
3. Recognition

## LEED for Homes Rating System

market rate      affordable      multi-family



## ■ KEY FEATURES: New to LEED

- Regional variability: climate & precipitation zones
- Durability plan
- Home size credit
- Multifamily/affordable home benefits
- One credit, one intent; mandatory + optional measures
- Location & Linkages category, integration with LEED for Neighborhood Developments (LEED-ND)

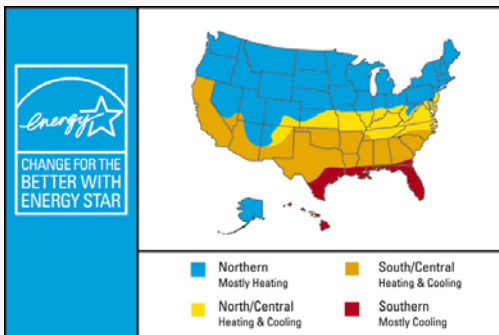


## ■ Mandatory Measures

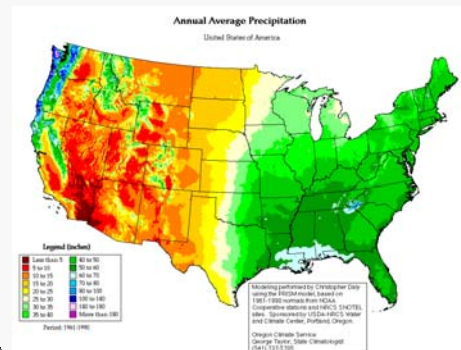
- Energy efficiency
- Durability plan
- Waste management
- Site protections
- Health & safety measures
  - Combustion venting
  - Controlled ventilation
- Owner's/tenant's manual



## ■ Climate Zones



## ■ Precipitation Zones





## Durability

### Mandatory Measure

- Risk Assessment
- Designed-In Durability Measures
- Construction Checklist

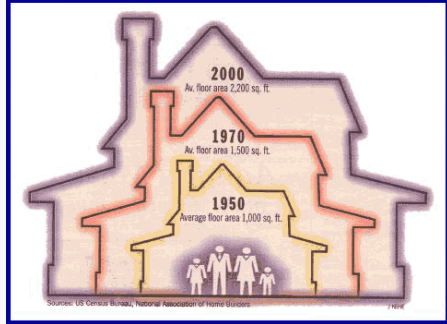
### Optional Measure

- 3rd Party Inspection



## Home Size

1950 3.37 people per household - 297 s.f. per person  
 1970 3.14 people per household - 478 s.f. per person  
 2000 2.62 people per household - 840 s.f. per person



## Home Size

House Size In Square Feet* (By Number of Bedrooms)					Score
0 Bedrooms	1 Bedroom	2 Bedrooms	3 Bedrooms	4 or More Bedrooms	
300	550	800	1000	1150	10
380	610	920	1180	1450	8
460	670	1040	1360	1750	6
540	730	1160	1540	2050	4
620	790	1280	1720	2350	2
700	850	1400	1900	2650	0
780	910	1520	2080	2950	-2
860	970	1640	2260	3250	-4
940	1030	1760	2440	3550	-6
1020	1090	1880	2620	3850	-8
1100	1150	2000	2800	4150	-10
>1100	>1150	>2000	>2800	>4150	etc.



\* SF values shown are midpoints of "point" bands.

## Affordable/multifamily target credits: up to 20 points

### Location & Linkages

- LL3: Proximity to existing infrastructure (1-2 points)
- LL4: Proximity to community resources (1-3 points)
- LL5: Compact development (1-3 points)

### Sustainable Sites

- Exemptions for small lot area

### Water Efficiency

- WE2: Irrigation exemption for density >10 DU/acre (1 point)

### Indoor Environmental Quality

- IEQ10: No garage (1 point)

### Materials & Resources

- Home size (up to 10 points)

### TOTAL

- Up to 20 points toward certification (30+ required)





## LEED for Homes categories

Design and construction practices that meet specified standards reducing the negative impact of buildings on their occupants and on the environment.

## Checklist

**Simple**

- ❖ 1 page (both sides)
- ❖ 108 points
- ❖ Entry level = 30 pts.

## Checklist

**Project Checklist**  
(Version 1.72 - August 18, 2008)

Builder Name: \_\_\_\_\_  
Address (Street/City/State): \_\_\_\_\_

Maximum Points: \_\_\_\_\_  
Dry Normal Wet

Req.	Pr.	SS	WE	EA	HA	MR	IEQ	LL
1.1	1.2	Site Stewardship	Minimize Disturbed Area of Site (If Site > 1/3 Acre)	Required				
2.1	2.2	Landscaping	Erosion Controls (During Construction)	Required				
2.3	2.4		Basic Landscaping Design	1				
			Apply 3 to 4 inches of Mulch Around Plants	5	3	1		
			Limit Turf	3	2	1		
			Minimize Landscape Water Demand					
3		Shading of Hardscapes	Locate and Plant Trees to Shade Hardscapes	1				
4.1	4.2	Surface Water Management	Install Permeable Material for at Least 65% of Lot (If Lot >= 1/4 acre)	Required				
4.3			Use Permeable Paving Materials	1	3	5		
			Design and Install Permanent Erosion Controls	1	2	3		
5		Non-Toxic Pest Control	Select insect and pest control alternatives from List	2				
		Sub-Total						

## Rating System

[www.usgbc.org/leed/homes](http://www.usgbc.org/leed/homes)

**Rating System**  
For Pilot Demonstration of  
LEED® for Homes Program

US Green Building Council  
September 8, 2005

## Mandatory Measures

ENERGY STAR Labeled Home  
or Equivalent

Health and Safety Measures

Combustion Venting

Controlled Ventilation

Durability Plan

Waste Management Plan

Site Protections

Owner's Manual



## What's New?

Regional Applicability

Climate Zones

Precipitation Zones

Durability

Plan

Inspection

Home Size

Location and Linkages

LEED-ND

Landscaping and Irrigation



## Locations and Linkages

- LEED for Neighborhood Development  
(Coming Soon)

OR

- Avoid environmentally sensitive areas
- Near existing infrastructure
- Near public transportation and community services
- Near green space
- Higher density



## Sustainable Sites

- Site stewardship
- Landscaping
  - Precipitation zones
- Shading of hardscapes – Heat Island effect
- Surface water management
  - Precipitation zones
- Non-toxic pest control



## ■ Water Efficiency

- Water reuse
- Irrigation system
  - Precipitation zones
  - Water points also in SS, EA
- Indoor water conservation



## ■ Indoor Environmental Quality

- Energy Star with Indoor Air Package

**OR**

- Combustion venting
- Humidity control
- Outdoor air ventilation
- Local exhaust
- Supply air distribution
- Supply air filtering
- Contaminant control
- Radon protection
- Vehicle emissions protection



## ■ Materials and Resources

- Home size
  - Points system reflect energy AND Materials impacts
- Material-efficient framing
- Local sources
- Durability plan
  - Precipitation zones
- Environmentally preferable products
- Waste management



## ■ Energy and Atmosphere

- Energy Star NW Home

**OR**

- Insulation
- Air infiltration
- Windows – climate-zone dependent
- Duct tightness
- Space heating and cooling
- Water heating

**AND**

- Lighting
- Appliances
- Renewable energy
- Refrigerant management



## ■ Homeowner Awareness

- Homeowner education
  - Basic owner's manual and walkthrough
  - Comprehensive owner's manual and multiple walkthroughs or trainings



## ■ Innovation and Design Process

- Measures proposed by the project team (up to 4 points)
  - New intents (alternate methods of meeting existing credit intents = CIR, not ID)
  - Exceeding performance of existing credits
    - Local Materials
    - Environmentally Preferred Materials



## ■ Overview of Credit Structure

### Credit #2: Landscaping

#### Intent

*Design and install landscape features that minimize demand for water and synthetic chemicals*

#### Requirements

##### Mandatory Measures

2.1

##### Optional Measures

2.2

2.3

#### Verification / Submittals

#### Synergies and Tradeoffs

#### Additional Information



## Pilot Schedule

Key Activities	Schedule							
	Pilot Phase							
	Sept	Oct	Nov	Dec	Jan '06	Feb	March	
TAG/SC Approval								
Local Orientation Meetings								
Builder Recruiting								
Preliminary Ratings								
Build LEED Homes								
LEED Certifications								
1st Public Review								
2nd Public Review								
USGBC Ballot								
Fully Chartered Program								



## PILOT MARKETS



## Pilot Status - National

Type of Participant	Registered
# of Providers	11
# of Builders	
Affordable	15
Production	10
Custom	70
# of Homes	
Single Family	140
Multi-Family	300



## Pilot Status - NW

Earth Advantage	Registered
# of Builders	
Affordable	3
Production	3
Custom	9
# of Homes	
Single Family	48
Multi-Family	88



## Local Pilots

- Pilots are single family, duplex, townhome and cottage-type housing
- Seattle and Bellingham locations
- Range of price points including affordable Community Land Trust homes and high end Green Lake cottages



**Ashworth Green Lake Cottages**



## Local Knowledge

- Pilot Rating Fees show economies of scale
- Cost structure will be reviewed in Pilot process
- System accommodates a wide range of approaches
- Leveraging opportunities
  - EnergyStar incentives and marketing support
  - Federal Tax Credit Certification

**Cacade Built or another Ashworth image . . .**



## How Do I Get Started?

- Step 1. Do your home work
- Step 2. Select a Provider and Rater
- Step 3. Perform a Plan Review



## USGBC Key Contacts

### US Green Building Council Staff

Administrative and Technical / Verification Questions

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### LEED for Homes Committee Chairs

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## Program Provider Contacts

### Program Provider – Earth Advantage, Inc.

LEED for Homes Program

Randy Hansell, LEED for Homes Program Manager  
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**build green,  
everyone profits.**

